

Amendments to the Drawings

Attached are replacement drawing sheets for Figures 1, 2, 5A-5C, 9 and 10. Figures 1, 2, 5A and 10 are amended as follows.

Figure 1:

Burr 38 is now labeled.

Figure 2:

"84" has been changed to ---112--- to properly label the set screw;

"120" has been changed to ---119--- to reference the spring.

Figure 5A:

An arrow has been placed on the lead line for stem valve 56, which is further defined by additional reference numerals.

Figure 10:

Reference numerals 174 and 176 have been switched to properly identify the tab 174 and the groove 176.

Added Figure 11:

The drawing illustrates a suction valve having a groove.

Added Figure 12:

The drawing illustrates a handpiece having a hole for receiving a pin.

REMARKS

The Office Action dated June 27, 2005 has been reviewed and the application is amended in a manner believed to place same in condition for allowance. Reconsideration of the application is requested.

In summary, Claims 1-7, 9-12, 14-18 and 20-24 have been amended. Claim 7 has been rewritten in independent form and includes features from allowable Claim 8. Claim 13 has been cancelled. Claims 25-28 have been cancelled in favor of new Claims 29-34.

In the Office Action, the drawings were objected to as not showing the valve barrel being "seated" in the stem bore. Claims 2, 10 and 24 are amended herein in a manner believed to overcome the instant rejection. This feature is disclosed at paragraph [0031], lines 10-12 of Applicant's specification.

The retaining member being in the valve stem, valve arm or housing is also objected to as not being shown in the drawings. Applicant's Figure 2 shows a pin 108 that can act as a retaining member by engaging the groove 110 of the housing as illustrated in Figure 7. This pin 108 extends through a bore 84 defined in the valve arm 64, which valve arm 64 is integral with valve stem 56. The specification at page 20, paragraph [0070] states that the pin could instead be mounted in the handpiece housing and engage a surface of the valve. This alternative arrangement is illustrated in newly added Figures 11 and 12, which Figures are fully supported by the specification as originally filed. Paragraph [0070] has been amended in view of the drawings.

The Office Action also states that a second valve bore must be shown in the drawings. Claim 9 previously recited "first and second valve bore openings at the opposed ends of said valve bore" (emphasis added). These openings are now recited in amended Claim 1. The valve bore has two openings at opposite ends thereof. One of the openings 96 is illustrated in Applicant's Figure 6. The first and second valve bore openings have the same shape as discussed in

paragraph [0038] of Applicant's specification, except that the orientation of the respective openings 96 on the opposite sides of the valve are inverted. Thus, the configuration for each valve bore opening is illustrated.

The drawings are further objected to because the reference character "120" has been used to designate both a spring and a notch; and character "84" has been used to designate both a bore and a screw. The spring is now defined by reference numeral 119 in Figure 2. The set screw is now properly labeled by numeral 112 in Figure 2. Further, burr 38 has been labeled in Figure 1 and elements 174, 176 are now properly labeled in Figure 10.

The specification is objected to for not providing support for the retaining member being positioned in the valve arm to engage the housing or stem to hold the stem in the chamber; the valve lever or stem provided with a bore in which the retaining member is seated, the valve lever or stem provided with a removable locking member to engage the retaining member; the lever having valve holes; and a second pin seated in a second bore. In response, the retaining member or pin 108 is positioned in the valve 50 (see bore 84 in Figures 2 and 4 and paragraph [0040] of the specification). Further, this same paragraph of the specification discusses a set screw 112 which is seated in bore 82. The specification is amended herein to include the term "pin" as an alternative for "screw". Further, the "removable locking member" previously recited in allowable Claim 8 is now included in Claim 7. This language refers to screw or pin 112 which seats in bore 82 of valve 50 which engages pin 108, as discussed in paragraph [0040] of the specification. The claims are also amended herein in a manner believed to overcome the instant objections.

Claim 27 stands rejected under 35 USC 112, second paragraph. Claim 27 has been cancelled, and the rejection thereof is now moot.

The objections to Claims 2-4, 6 and 10-15 have been considered. Claims 2, 6 and 10 have been amended to address these objections. Further, Claims 10-12, 14 and 15 have been amended for clarification purposes. Claim 13 has been cancelled.

Applicant appreciates the allowance of Claims 16-24 and the indication of allowable subject matter in Claim 8. The amendments to Claims 16-18 and 20-24 are solely for clarification purposes. Thus, Applicant believes Claims 16-24 remain allowable over the art of record. Claim 7 incorporates subject matter from allowable Claim 8, and thus is also believed allowable.

Turning now to the rejections under 35 USC §103, Applicant notes the following. Claims 2-4 and 13-15 have not been rejected based on the applied prior art. Thus, these claims are believed allowable.

Claims 1 and 9-11 were rejected under 35 USC §103 as unpatentable over Sjostrom (U.S. Patent No. 5 871 493) in view of Cook (U.S. Patent No. 5 241 990).

Amended independent Claim 1 includes features from dependent Claim 9 and is believed to patentably distinguish over the prior art of record.

Sjostrom discloses a surgical instrument handpiece having a handle 635 that controls a valve 640 which in turn controls flow through an aspiration channel 630. No details regarding valve 640 are provided.

Cook discloses an irrigation/aspiration valve and probe for laparoscopy. The valve includes a rotating valve body 20 defined as a hollow cylinder with an opening at a top end and a pair of vertically spaced apertures 74, 75 opening through a side wall 30 of the valve body 20. Rotation of the valve body 20 places one of the apertures in alignment with either a irrigation source or an aspiration/suction source. The top end of the cylinder opens into channel 58. Column 5, lines 47-55 of Cook discloses the use of different shapes for the apertures 74, 75 including a tear-drop shape. The apertures

74, 75 of Cook open into a chamber 70 defined within valve body 20, rather than a direct passage therethrough as would presumably be necessary in Sjostrom. The chamber 70 then opens upwardly to connect with channel 58.

In view of the completely different valve structures taught in Sjostrom and Cook, it is submitted that one would not be motivated to combine the two references.

Further, even if for the sake of argument Sjostrom and Cook were combined, the instant invention would not result. More specifically, Applicant's Claim 1 recites that "said valve being formed to have a valve bore that extends therethrough with first and second non-circular valve bore openings at the opposite ends of said valve bore, wherein the first valve bore opening is selectively placed in registration with the suction bore and the second valve bore opening is placed in registration with the suction passage as the valve is rotated from a closed state to a fully open state, the first valve bore opening being shaped to have a first narrow width section that is first placed in registration with the suction bore during the rotation of the valve from the closed state to the fully open state and a second, wide width section that is placed in registration with the suction bore as said valve is further rotated toward the fully open state, the second valve bore opening being shaped to have a first narrow width section that is first placed in registration with the suction passage during the rotation of the valve from the closed state to the fully open state and a second, wide width section that is placed in registration with the suction passage as the valve is further rotated toward the fully open state".

Sjostrom does not teach or even remotely suggest such a valve construction, and Cook does not cure this deficiency. More specifically, even if Sjostrom's valve were modified to include Cook's tear-drop shaped valve opening, the resulting valve structure in Sjostrom would not include tear-drop shaped openings at opposite ends of a valve bore, wherein narrow

sections of the respective openings are first placed in registration with respective suction passages during rotation of the valve from the closed state to the fully open state.

For the above reasons, Applicant's Claim 1, and Claim 9 dependent therefrom, are believed allowable over the combination of Sjostrom and Cook.

Independent Claim 10 has been amended to recite the features of dependent Claim 13. Claim 13 was not rejected in the Office Action and thus is believed allowable. Further, amended Claim 10 now recites "a valve stem formed from rigid material" and "a valve barrel comprising flexible material and having a portion disposed within the stem bore so as to define a valve bore". This combination of a valve stem with a stem bore and a valve barrel formed from flexible material having a portion disposed within the stem bore is not believed present in Sjostrom or Cook. Therefore, Claim 10, and Claim 11 dependent therefrom, are believed allowable over the applied prior art.

Claims 5 and 12 were rejected under 35 USC §103 as being unpatentable over Sjostrom in view of Cook as applied to Claims 1 and 10 above, and further in view of Deng (U.S. Patent No. 6 436 067). Claims 5 and 12 depend from Claims 1 and 10 and are believed allowable for the reasons set forth above with respect to these claims.

The rejection of Claim 7 under 35 USC §103 as being unpatentable over Sjostrom in view of Cook, and further in view of Schwarz (U.S. Patent No. 4 927 116) has been considered.

Claim 7 has been rewritten in independent form and includes features from allowed dependent Claim 8. Claim 7 specifically recites "a retaining member positioned in a bore defined in said valve", that "said retaining member is directed towards a surface of said housing", and "a removable locking member positioned to engage said retaining member". These features are illustrated in Applicant's Figures 2 and 7, respectively. Since Claim 7 includes the main features of

allowed Claim 8, Claim 7 is believed allowable over the applied prior art.

The rejection of Claims 1, 5 and 10-12 under 35 USC §103 as unpatentable over Deng, (U.S. Patent No. 6 436 067 the '067 patent) in view of Cook '990 has been considered.

The '067 patent discloses a handpiece for receiving a cutter. The handpiece houses a motor and has a valve 52 that includes a barrel 56 which is rotatably seated in a valve chamber 54 of a housing 22. The barrel 56 has a barrel bore 50 that extends perpendicular to the longitudinal axis thereof. Thus, the '067 patent teaches a valve similar to the valve of Sjostrom. Once again Cook is utilized for the teaching of a tear drop shape for the barrel bore 58.

For the reasons set forth above with respect to Claims 1 and 10 as rejected based on the combination of Sjostrom and Cook, independent Claims 1 and 10 are believed distinguishable over the combination of the '067 patent and Cook.

The rejection of Claims 1, 7 and 10-12 under the judicially created doctrine of obviousness-type double patenting as unpatentable over Claims 7 and 10 of U.S. Patent No. 6 312 441 (the '441 patent) to Deng in view of Cook has been considered.

Applicant's Claim 7 includes the features of allowable Claim 8 and thus is believed allowable.

The '441 patent discloses a powered surgical handpiece including a motor 26 and a valve 44 having a lever arm 108. Once again the '441 patent does not differ significantly from Sjostrom or the '067 patent in its teachings of a valve.

Claim 7 of the '441 patent recites a housing having a main bore, a suction bore and a valve bore. Claim 7 also recites a motor in the main bore of the housing and a coupling assembly. A valve for mounting in the valve bore includes a rotatable valve body having a through bore perpendicular to the axis of rotation of the valve body, and a valve stem with a valve arm attached thereto. A retaining member prevents removal of the valve mounted in the valve bore. Claim 10 of

the '441 patent is similar to Claim 7 except a "pin" is claimed instead of a retaining member.

Applicant's Claim 1 recites "the first valve bore opening being shaped to have a first narrow width section that is first placed in registration with the suction bore during the rotation of the valve from the closed state to the fully open state and a second, wide width section that is placed in registration with the suction bore as said valve is further rotated toward the fully open state, the second valve bore opening being shaped to have a first narrow width section that is first placed in registration with the suction passage during the rotation of the valve from the closed state to the fully open state and a second, wide width section that is placed in registration with the suction passage as the valve is further rotated toward the fully open state". As discussed above, this feature is not present in the applied prior art. Even if Claim 7 or 10 of the '441 patent were modified to include the tear-drop shaped valve opening of Cook, which Applicant disagrees with, Applicant's claimed invention would not result. The resulting Cook valve bore opening would have a narrow section of a first opening placed in registration with a suction passage at a first end and simultaneously a wide section placed in registration at a second end of the valve bore opening.

Applicant's Claim 10 recites the features of unrejected dependent Claim 13 and thus is believed allowable. Further, Claims 7 and 10 of the '441 patent and Cook do not disclose or suggest the combination of "a valve stem formed from rigid material" and "a valve barrel comprising flexible material and having a portion disposed within the stem bore".

For the above reasons, Applicant's independent Claims 1 and 10, and dependent Claims 11 and 12, are believed distinguishable over the combination of Claims 7 and 10 of the '441 patent and Cook under the obviousness-type double patenting rejection.

The rejection of Claims 5 and 6 as being unpatentable over Claims 7 and 10 of the '441 patent in view of Cook and the '067 patent has been considered. Claims 5 and 6 are believed allowable for the reasons set forth above with respect to Applicant's independent Claim 1. Therefore, withdrawal of the rejection of Claims 5 and 6 under the judicially created doctrine of obviousness-type double patenting is respectfully requested.

Claims 25-28 have been cancelled in favor of Claims 29-34, which emphasize the suction fitting secured to a suction mount arrangement for the suction bore. Independent Claim 29 recites a surgical handpiece for actuation of a cutting accessory comprising a housing, a power generating unit, a valve assembly, a suction mount arrangement and a suction fitting. The suction mount arrangement includes "a suction mount that is rigidly mounted to said housing and that is fitted to an opening into the suction bore". The suction fitting "is rotatably mounted to the proximal end of said suction mount". Claim 29 also recites the suction fitting having "a groove extending about a circumference thereof, said groove coacting with said suction mount arrangement to enable rotation of said suction fitting with respect to said suction mount". This groove feature was recited in Applicant's cancelled Claim 28.

The rejection of Claims 25-27 were based on various combinations of the Sjostrom patent, U.S. Patent No. 2 525 329 to Wyzenbeek, U.S. Patent No. 4 113 288 to Cox, and the '067 patent. Double patenting rejections of Claims 25-28 were based on Claims 7 and 10 of the '441 patent in view of Wyzenbeek, Sjostrom and Cox.

All of the rejections of Claim 28 applied Cox. Since Applicant's Claim 29 recites the suction fitting having a groove previously present in Claim 28, Cox would be necessary in any rejection of Applicant's new Claim 29.

Cox discloses a swivel coupling for a system that dispenses gasoline from a reservoir tank into an automobile

gas tank. The coupling includes a hose connection component 42 and a component 44 for connection to a rigid member 82 which may be a nozzle or a pump. Thus, component 44 corresponds to Applicant's suction mount and component 42 corresponds to a suction fitting. The coupling of Cox, of course, is not related to a suction system, but rather a fuel dispensing system.

Cox does not disclose or suggest a surgical handpiece, much less a surgical handpiece including a housing, power generating unit for actuating a cutting accessory or even a valve assembly. Cox merely discloses a swivel coupling for use in the aforesaid gasoline dispensing function. Therefore, Applicant believes there is no motivation to utilize the specific coupling of Cox with a surgical handpiece as disclosed in the '441 patent, the '067 patent, or Sjostrom.

For the above reasons, independent Claim 29, and Claims 30-34 dependent therefrom, are believed allowable over the prior art applied to Claims 25-28 either under 35 USC §103 or obviousness-type double patenting.

Applicant believes Claims 30-34 further distinguish the prior art applied in the Office Action including Cox. For example, Applicant's Claim 31 recites that the "removable locking member comprises bearings". This feature is not disclosed or suggested in the prior art. For example, Cox relies on an internal groove 48 that receives a ring 46 to join the connection components 42, 44.

Applicant's Claim 32 further recites that the "suction mount includes a base section with open bore holes spaced about a circumference thereof, said bearings comprising ball bearings disposed in said holes". No such arrangement is disclosed in Cox.

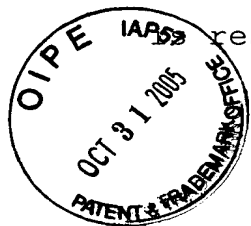
Applicant's Claim 33 recites that "said groove comprises an outer groove extending about an outer circumference of said suction fitting". The suction fitting in Cox for component 42 has an inner groove.

Applicant's Claim 34 recites that the suction mount includes a base section having "fingers extending axially outwardly to form the proximal end of said suction mount". This structure is not believed present in Cox or the applied prior art.

For the above reasons, Claims 30-34 are believed allowable over the applied prior art.

In view of the above, the instant application is believed to be in condition for allowance, and action toward that end respectfully requested.

Respectfully submitted,



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